

Contents

Introduction	1
Included	2
Main Features	3
Specifications	4
Know the Radio	6
Preparation before using	7
Function Operations	14
PC Setting	24
Maintenance	31
Trouble Shooting	33
Appendix: CTCSS and DCS chart	35

Introduction

Thanks for purchasing ZASTONE transceiver ZT-V6/V6+. Please read this manual carefully to learn its latest functions and operations before using. ZT-V6/V6+ is with mini compact size, easy-to-use feature and stable performance. It's developed for satisfying the customers demand.

No matter you are in the countryside、forest area、pastoral area or the sea, it still can have a high quality conversation. Meanwhile, the fashion casing also can meet your personality.

Included

Please unpack the transceiver carefully and check the package again to make sure there is no listed items as below inside before you discard it. Should any items have been missed or damaged during shipment, please file a claim to the distributor immediately.

Accessories List:

Description	Unit	Quantity
Antenna	pc	1
Belt clip	pc	1
Lithium battery pack	pc	1
Charger	pc	1
Adaptor	pc	1
3*6 screw	pc	2
User Manual	pc	1
Warranty card	pc	1
QC passed card	pc	1

Main Features

- 1、Frequency range: 400-470MHz
- 2、Voice reported function in both English and Chinese (Optional)
- 3、High /Low power switchable: 4W/1W
- 4、Wide/Narrow Bandwidth
- 5、CTCSS 50/ DCS 83 to avoid interference from other radios
- 6、VOX function. Release your hands for convenient use
- 7、TOT Function. Avoid damage due to the long-term transmit
- 8、BCL Function
- 9、Scan function. Scan and receive all the conversion channel
- 10、FM Radio. Know more about the latest news
- 11、Battery Save and Long Standby.

All the above function can be programmed by PC.

The transceiver also has the below functions:

1. Emergency alert. Keep you safe and comfortable.
2. Noise cancel function. Can clear up the noise after conversation ended.
3. Channel locked function

Technical Information

GENERAL

Frequency range:	400MHz-470MHz
Number of channel:	16
Channel spacing:	12.5kHz/25kHz(Optional)
Modulation:	Frequency Modulation (FM)
Operating temperature range:	-20℃ --- +55℃
Voltage:	7.4V
Standby Current:	About 15mAh (Power Save)
Size:	100(H) × 58(W) × 36(D)
Weight:	About 205g

TRANSMITTER:

Frequency Distortion:	±3ppm
Output power:	≤5W
Emission current:	≤1.5A
Maximum frequency deviation:	±5kHz
Audio frequency distortion:	<10%
Adjacent frequency:	<70dB
Residual radiation:	<-60dB

RECEIVER

Reference sensitivity: $<-122\text{dBm}$ (12dB SINAD)

Squelch sensitivity: $<-126\text{dBm}$

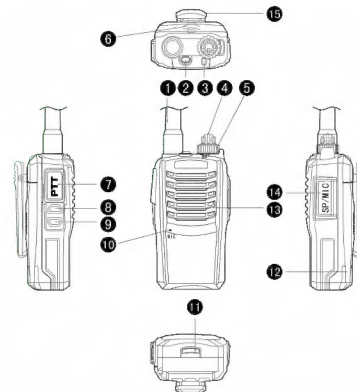
Rated Audio Power: $\geq 500\text{mW}$

Receiving current: $\leq 380\text{mA}$

Audio frequency distortion: $<10\%$

Adjacent- Channel Selectivity: $\geq 60\text{dB}$

Intermediation Rejection: $\geq 60\text{dB}$

Know the Radio

1 Antenna

2 Emergency Call
Bluetooth MFB

3 Indicator

4 VOX

5 Channel

6 Ring Hole

7 PTT

8 Mnoitor /FM+

9 FM-

10 MIC

11 Battery snap

12 Battery

13 SP

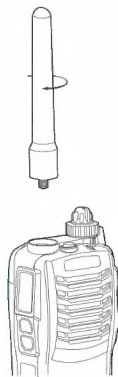
14 MIC/SP Waterproof Cover

15 Belt Clip

Preparation for Using

Install the antenna

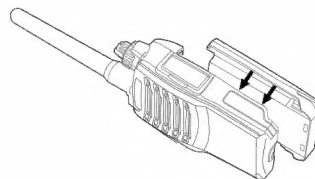
Install the antenna as picture and rotate it clockwise till tight (The antenna in picture only for reference)



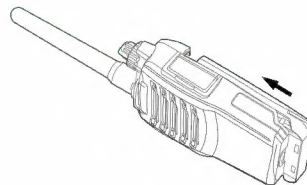
Note: Dont hold the radio by antenna or hang the keychain and earphone on it, since they will spoil the antenna and reduce the performance of the radio

Install Lithium battery pack

Put the original Lithium battery pack into the transceiver correctly as following picture shows.:



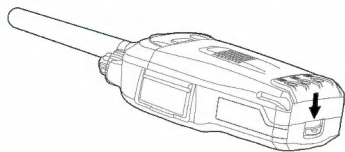
P1



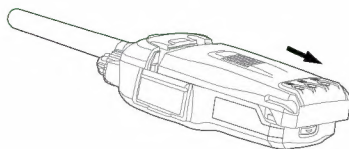
P2

Unfold the Battery

Press the battery snap like picture shows and push up .



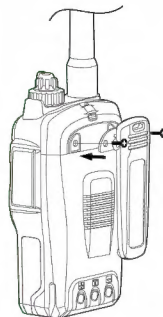
P1



P2

Install the belt clip

If necessary, installing the belt clip with 3*6 screws to fix it.



P1



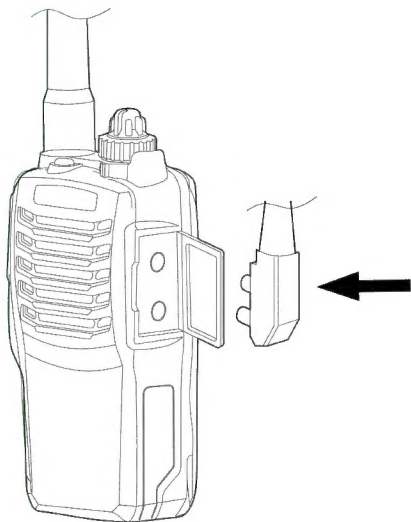
P2

Note: 1. When installing the belt clip , do not use any glue to fix crew or it will be bad for casing .

2. Take off the belt clip first, then the battery pack.

Install external microphone

Install the microphone as picture shows,



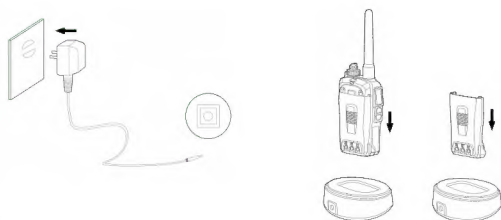
Charging

The battery pack is without power when finished, and please charge it before using.

When using for the first time after purchased or stored over two months, the capacity of battery pack is less than normal. However, it will return normal after charged and discharged for five times. Charge in power-off mode, the red indicator is on, and it is off when finish charging.

Charging steps below:

1. Insert the AC adaptor line to the charging hole of desk-top .
2. Connect the power with AC adaptor.
3. Put Nimh battery or Radio with battery on the desk top. As following pictures shows .



- Note:**
1. Please make sure battery charging is working
 2. it will return normal after charged and discharged for five times. Charge in power-off mode, the red indicator is on, and it is off when finish charging.
 3. Do not short-circuit the battery terminals or dispose of batteries in fire.
 4. Do not unload the battery rear case.
 5. It will cost 5.6 hours for completing charging.

Functions Operations

Turn On

Turn on the radio by rotating Power/Vox Clockwise .

When hearing the sound “Di” ,it means the radio is on and reporting the channel numbers.

Channel Exchange

Choose the channel you want .When meet the using one ,you would hear the sound from the speaker.

VOX Adjustment

Press [MONI] and rotating the Vox to adjust the suitable at same time.

Transmitting

Press 【PTT】 and Red Indicator flashes, then transmitting the information and release.

Monitor

Short press (FM/Monitor/FM+) to turn on the Squelch ,press gain to turn off.

Call Function

Press (PTT) and (FM/Monitor/FM+) simultaneously to call and transmit , release (FM/Monitor/FM+) to quit .

Bluetooth Operation

1、Bluetooth Function On

When radio is power on ,long press Bluetooth MFB Key for more than 2 seconds, release after Blue indicator flashes.

2、Matching Operation

Making the Bluetooth headset and Bluetooth PTT into pairing separately ,please do the following steps:

A: Bluetooth Headset entering matching state
The way to matching with Bluetooth headset please refer to user manual of Bluetooth headsets.

B: Bluetooth PTT enters matching state
With power off of Bluetooth PTT ,long press Bluetooth PTT MFB Key about 8 seconds ,Bluetooth PTT red indicator flashes ,then release .That means entering matching .

C、Radio enters matching state
With radio power on ,long press Bluetooth MFB Key about 5 seconds ,Red indicator flashes ,then release That means radio enters matching .

When three devices are ready ,matching would finish automatically about 10 seconds,and quit to be standby.
At that time, radio blue indicator flashes.

3、Connecting automatically

When using radio ,Bluetooth PTT and Bluetooth headset, headset or Bluetooth PTT maybe out of operating range or stop connecting, it can automatically connect by double clicking Bluetooth MFB on the radio. It takes about 30 seconds to connect automatically;Also can turn off the radio Bluetooth function then turn on again ,connecting automatically .

As the difference on using solution with Bluetooth headset, it maybe can not connect automatically .Now you should do again following the above steps.

4、Turn off the Bluetooth function on the radio

When radio is power on ,long press Bluetooth MFB about 2 seconds ,red indicator off then release .That means Bluetooth function has been turn off.

FM Operation

- 1.Long press (FM/Monitor/FM+) for more than 2 seconds and hear the sound “Di” ,turning on the FM .The radio can scan automatically by short pressing the (FM/Monitor/FM+). Stop scanning when get a signal If want to receive another radios, short press (FM/Monitor/FM+) again.
- 2.Long press (FM/Monitor/FM+) for more than 2 seconds and hear the sound” Di Di” means to quit the FM.
- 3.Closing the FM function can be programmed by PC .

Note: The radio can return automatically to be ready for transmitting when receiving the same frequency signal . If setting like this ,radio can return and go on receiving FM . If not ,the radio can not return automatically .

Emergency Call

V6 Model: Long press Bluetooth button on the top of panel for more than 2s ,then can active “Emergency Call” ;

V6+ Model: Long press (FM-/Call) button on the side panel for more than 2s ,then active the “Emergency Call”

Now: The red indicator of radio flashes and makes aloud emergency call to the same frequency (channel one) radio.Press the PTT to quit the emergency call.

After operation this function, the radio would stop on Channel 01 till you rotating the Channels. If not ,radio would flash green to tip .

Scan Function

When active the scan function by PC program, and turn to the Channel 16, then radio tips the sound

of “scanning” . If report “16” , it means turn off the scan function.

Turning on the scan function and being standby , radio would scan the signal one by one from the present channel.

When match with same signal ,LED light would flash green and receive signals .Then you can transmit the information by PTT .If there is no operation on the radio ,it would return to scan .

Example: When active the scanning of Channel 3, 5 , 7 , radio would scan automatically when get to Channel 16 .Once receiving the signal from anyone of channel 3,5,7,16 ,scanning would stop and ready for transmitting .

Channel Lock Out

Radio with channel lock out function avoid not transmitting by some improper operation on the radio

at some specific occasions.

Steps: Press (FM/Monitor/FM +) and (FM-) at same time to turn the radio on ,and “Di” tip sound . It means change present status.

It is only allowed to use one channel and can not be changed by Channel Selector when active Channel lock out function .

Do again the above steps to turn to Channel 16

Low Battery Alert

- 1、 Working in Voltage higher 6.5 V (Battery shows 1-2 Grid).
- 2、 Transmit and receive working , but red indicator flashes when voltage lower than 6.5V ,but higher than 6.3V (Battery shows 1 Grid)
- 3、 Voltage higher than 6.1V but lower than 6.3V (battery is blank) ,Receive working ,alarm “Di Di” by every 20 seconds ; Transmit working ,but red indicator

indicator flashes.

Voltage lower than 6.1V (battery is blank) ,receive working , alarm every 2 0 seconds ,but can not transmitting.

Wired Cloning (Mutual clone between two transceivers)

1. Well connected the transmission lines to the both transceivers, and then power on the subsidiary transceiver.
2. Rotate the channel selector on the base transceiver to channel 8, then hold and Press “Radio/Monitor/Reception+ key to power on, (3 seconds later) until the orange light (red light and yellow light flash simultaneously) flashes which indicates the base transceiver is in cloning state, then release the button.
3. When the orange light on the base transceiver flashes, press the PTT key, the red light on base transceiver flashes, and the yellow light on subsidiary transceiver flashes, which indicates the base transceiver is in cloning state. The mutual clone is successful when the light on base transceiver flashes orange again.

4. If indicator of both two transceivers flashes abnormally in the process of data transmit, it means replication fail. In that case, please check and make sure the transmission line is well connected. And please press the PTT button again to resume cloning when the indicator light of the base transceiver shines orange.
5. If need to clone with more than one transceivers, please turn off the subsidiary device after cloning finished and then pull out the transmission cable. And then clone to next transceiver following steps above.
6. Please reboot the transceiver to make it work properly after cloning.

Function Setting

PC Software Programming Setting

Please login in to download to ZT-V6/V6+ software.

SQL Setting

1. Open the PC software to choose the squelch you require. Squelch level is from 1-9. Squelch Level | 4

The higher the squelch level, the lower chance of interference, but it may affect the communication distance.

2. Squelch system can eliminate background noise when there is no signal received, which not only make it more comfortable at standby mode, but also significantly reduces the standby power consumption.

VOX Function

1. Open the PC software, you can choose the squelch you require. The gain level of VOX is from level 1 to level 9. The higher the lever is, the higher the sensitivity

will be.

2. VOX Postponement: If the transceiver returns to receiving mode immediately after launch, the end part of the call may not be transmitted correctly. Such kind of problem can be avoided by setting VOX Postponement.

“ VOX Postponement | 0.5S ” .

TOT

1. The purpose of the Time-out Timer is to prevent any single person from using a channel for an extended period of time.

2. The overtime can be set by PC software programming (the time can set as 30 seconds, 60 seconds, 90 seconds、120 seconds、150 seconds、180 seconds or OFF). If the continuous launching time is over the preset timer, the launching will be stopped and a “Bi” tone sounds. To stop the “Bi” tone, please release the PTT button. You can press the PTT button again to resume launching.

Oral Channel Indicator Function

1. Open the PC software to choose the language you like.
2. When the oral channel indicator function is programmed to be off, then the transceiver will not report the channel.
3. When the oral channel indicator function is programmed to be in English or in Chinese, then the transceiver will report the channel.

Scan Function

1. Open the PC software to choose the scan should be turned on or not. There are two kinds of scan, one is “carrier wave” , and the other is “time”
2. When you choose carrier wave, you can select the function in each channel. There're scan function options behind each channel if the function is selected. When the scan function is set to be ON, the channel can be scanned automatically in standby state, and you can talk on this channel while there's signal. Rotate the channel selector to channel 16 to activate the scan function, and

then those channels which set automatic scan will be activated by itself. For instance, if the scan function of channel 3,5,7 was activated by PC software programming, when you rotate the channel selector to channel 16, the transceiver will scan channel 3,5,7,16, when receive signal from one of these four channels, it will stop scanning, and talk on this channel. It's normal that it will be delayed when you open the speaker after activating the scan function, the delay time is related to the number of channels which set scan function.

3. You can also set priority channel, even if the transceiver stay in the Non-Priority channel, it still keep spying the priority channel. Once receiving some signal, it will turn to the priority channel immediately

Busy Channel Lockout

1. Open the PC software to choose the channel you require. ZT-V6/V6+ can be set to be OFF, carrier wave busy lockout and CTCSS busy lockout. Only the channel was set CTCSS or DCS, can it open CTCSS/DCS busy lockout.

2. QT Busy Lockout: The transceiver receives SQ, but no CTCSS/DCS, and then transmitting is allowed. The transceiver receives SQ, and CTCSS/DCS, and then transmitting is prohibited.

Power Save

Open the PC software to decide whether you will choose the power save or not. Power save ☒ When “√” is chosen, that means you the power save function be turned on.

FM Radio

Open the PC software to decide whether you will choose the FM radio or not. When “√” is chosen, that means you the function be turned on.

Radio Return

Open the PC software to decide whether you will choose the Radio return function or not. When “√” is chosen, that means you the Radio return function turn on. If not, the FM radio exit automatically after receives a signal.

High and Low Power Selection

Open the PC software to choose the high/low power in the corresponding channel you are in. Broad Band and Narrow Band Selection Open the PC software to choose the Broad Band /Narrow Band in the corresponding channel you are in.

CTCSS/DCS

You can set CTCSS/DCS code on channels of the transceivers by PC software.

If certain channel is encoded with CTCSS/DCS, then only the signal which encoded with the same CTCSS/DCS can turn on its squelch. Similarly, only the radio whose CTCSS/DCS mode is the same as yours can receive signals you send. If the other side uses different CTCSS/DCS on the same channel to call, then its squelch cannot be turned on but only flashes yellow light to remind you.

Maintenance

Transceiver you purchased is an exactitude design electronic products and please use it carefully.

Following maintenance ways may help extend its lifetime.

1. Please don't try to disassemble the Transceiver since non-technicians' processing may cause damage to the device.
2. To use stable power supply, please connect the specified USB cable to the DC jack of the transceiver.
3. Please turn off the transceiver when you are in gas station.
4. Please don't put the transceiver in sun or hot place for long time, because the high temperature will shorten use life of electronic parts and cause distortion to plastic parts.
5. Please keep the transceiver dry, because rain and moisture will erode the electronic circuits.

6. Please power off the transceiver and remove its battery pack immediately once it is peculiar.

Trouble Shooting

Problem	Solution
No power	<ul style="list-style-type: none"> ● The battery may have been exhausted. Please recharge or replace the battery pack. ● The battery pack may not be installed correctly. Please check and install it again.
Unable to talk or hear members in your group	<ul style="list-style-type: none"> ● Make sure you are using the same frequency and CTCSS tone as other members in your group. ● Other group members maybe too far away from you, make sure you are in the radio's operating range.
Can not talk with other members in your group.	<ul style="list-style-type: none"> ● Make sure you use the same frequency and CTCSS tone as the other members in your group. ● Other members of your group may be too far away from you. Make sure you are in the radios' operating range.
the communication distance is short	<ul style="list-style-type: none"> ● Please confirm whether the antenna is well connected and tightened. ● Please confirm whether you use the original antenna. ● The distributor and user

	may set high squelch, please reduce the squelch level.
The other group members' voices are present on the channel.	<ul style="list-style-type: none"> ● Please change the frequency. ● Make sure to change CTCSS signal of all transceivers in your group.
Battery lasts in a short time after charging	<ul style="list-style-type: none"> ● The battery pack has been used out and cannot function any longer. Please replace it with a new one. ● Make sure the battery is fully charged.
The receiver voice is not clear and loud	<ul style="list-style-type: none"> ● Check whether the MIC of transceiver blocked

Appendix: CTCSS and DCS chart

50 groups CTCSS

67.0	85.4	107.2	136.5	165.5	186.2	210.7	254.1
69.3	88.5	110.9	141.3	167.9	189.9	218.1	
71.9	91.5	114.8	146.2	171.3	192.8	225.7	
74.4	94.8	118.8	151.4	173.8	196.6	229.1	
77.0	97.4	123.0	156.7	177.3	199.5	233.6	
79.7	100.0	127.3	159.8	179.9	203.5	241.8	
82.5	103.5	131.8	162.2	183.5	206.5	250.3	

83 groups DCS Optional

023	051	114	143	174	251	315	371	445	532	631	723
025	054	115	152	205	261	331	411	464	546	632	731
026	065	116	155	223	263	343	412	465	565	654	732
031	071	125	156	226	265	346	413	466	606	662	734
032	072	131	162	243	271	351	423	503	612	664	743
043	073	132	165	244	306	364	431	506	624	703	754
047	074	134	172	245	311	365	432	516	627	712	